```
agatctcaccaagctgaggtcttgggagaggagatactggctgagccctattacttaatttaaaatacctaggggaggccacccaagtggatgcggggctcctgtgaatcctttgcttg  120
actccagcgggttacctttgcctctgatacataaagggtggggatgggagcgctctcctctctccttcccctgccttgctgtgggaacttctgggaaaggaggtgcagggctccaggaag  240
ccagtgcccagggagtgctatgctgagtccaggagcctggccacggcaggggtggacagatggtggcagaggaaccacggtgtcccttcctccagatttagctaaaggaaacgtggagca  360
tcccattggccatcctccccactctccaattcggctccagaggcccctccagactataggcagctgccccttaagcgtcgctactcctcccccaagagcggtggcaccgagggagttgg  480
ggtgggggggaggctgagcgctctggctgggacagctagagaagatggcccaggctggggaagtcgctctcatgccttgctgtcccctcccctgagccaggtgatttgggagacccccctcc  600
ttccttctttccctaccgccccacgcgcgacccgggg ATG GCT CCG TCG CCT CAC GAG AAC AGC TCT CTT GCC CCA TCC CCG GAC CTC CCC ACC CTG    697
                                       M  A  P  W  P  H  E  N  S  S  L  A  P  W  P  D  L  P  T  L      20
GCG CCC AAT ACC GCC AAC ACC AGT GGG CTG CCA GGG GTT CCG TGG GAG GCG GCC CTA GCC GGG GCC CTG CTG GCG CTG GCG GTG CTG GCC   787
 A  P  N  T  A  N  T  S  G  L  P  G  V  P  W  E  A  A  L  A  G  A  L  L  A  L  A  V  L  A      50
ACC GTG GGA GGC AAC CTG CTG GTC ATC GTG GCC ATC GCC TGG ACT CCG AGA CTC CAG ACC ATG ACC AAC GTG TTC GTG ACT TCG CTG GCC   877
 T  V  G  G  N  L  L  V  I  V  A  I  A  W  T  P  R  L  Q  T  M  T  N  V  F  V  T  S  L  A      80
GCA GCC GAC CTG GTG ATG GGA CTC CTG GTG GTG CCG CCG GCG GCC ACC TTG GCG CTG ACT GGC CAC TGG CGG TTG GGC GCC ACT GGC TGC   967
 A  A  D  L  V  M  G  L  L  V  V  P  P  A  A  T  L  A  L  T  G  H  W  P  L  G  A  T  G  C     110
GAG CTG TCG ACC TCG GTG GAC GTG CTG TGT GTG ACC GCC AGC ATC GAA ACC CTG TGC GCC CTG GCC GTG GAC CGC TAC CTG GCT GTG ACC  1057
 E  L  W  T  S  V  D  V  L  C  V  T  A  S  I  E  T  L  C  A  L  A  V  D  R  Y  L  A  V  T     140
AAC CCG CTG CGT TAC GGC GCA CTG GTC ACC AAG CGC TGC GCC CGG ACA GCT GTG GTC CTG GTG TGG GTC GTG TCG GCC GCG GTG TCG TTT  1147
 N  P  L  R  Y  G  A  L  V  T  K  R  C  A  R  T  A  V  V  L  V  W  V  V  S  A  A  V  S  F     170
GCG CCC ATC ATG AGC CAG TGG TGG CGC GTA CGG GCC CAC GCC GAG GCG CAG CGC TGC CAC TCC AAC CCG CGC TGC TGT GCC TTC GCC TCC  1237
 A  P  I  M  S  Q  W  W  R  V  G  A  D  A  E  A  Q  R  C  H  S  N  P  R  C  C  A  F  A  S     200
AAC ATG CCC TAC GTG CTG CTG TCC TCC TCC GTC TCC TTC TAC CTT CCT CTT CTC GTG ATG CTC TTC GTC TAC GCG CGG GTT TTC GTG GTG  1327
 N  M  P  Y  V  L  L  S  S  S  V  S  F  Y  L  P  L  L  V  M  L  F  V  Y  A  R  V  F  V  V     230
GCT ACG CGC CAG CTG CGC TTG CTG CGC GGG GAG CTG CGC CGC TTT CCG CCC GAG GAG TCT CCG CCG GCG CCG TCG CGC TCT CTG GCC CCG  1417
 A  T  R  Q  L  R  L  L  R  G  E  L  G  R  F  P  P  E  E  S  P  P  A  P  S  R  S  L  A  P     260
GCC CCG GTG GGG ACG TGC GCT CCG CCC GAA GGG GTG CCC GCC TGC GGC CGG CGG CCC GCG CGC CTC CTG CCT CTC CGG GAA CAC CGG GCC  1507
 A  P  V  G  T  C  A  P  P  E  G  V  P  A  C  G  R  R  P  A  R  L  L  P  L  R  E  H  R  A     290
CTG TGC ACC TTG GGT CTC ATC ATG GGC ACC TTC ACT CTC TGC TGG TTG CCC TTC TTT CTG GCC ACC GTG CTG CGC GCC CTG GGG GGC CCC  1597
 L  C  T  L  G  L  I  M  G  T  F  T  L  C  W  L  P  F  F  L  A  N  V  L  R  A  L  G  G  P     320
TCT CTA GTC CCG GGC CCG GCT TTC CTT GCC CTG AAC TGG CTA GGT TAT GCC AAT TCT GCC TTC AAC CCG CTC ATC TAC TGC CGC AGC CCG  1687
 S  L  V  P  G  P  A  F  L  A  L  N  W  L  G  Y  A  N  S  A  F  N  P  L  I  Y  C  R  S  P     350
GAC TTT CGC AGC GCC TTC CGC CGT CTT CTG TGC CGC TGC GGC CGT CGC CTG CCT CCG GAG CCC TGC GCC GCC GCC CGC CCG GCC CTC TTC  1777
 D  F  R  S  A  F  R  R  L  L  C  R  C  G  R  R  L  P  P  E  P  C  A  A  A  R  P  A  L  F     380
CCC TCG GGC GTT CCT GCG GCC CGG AGC AGC CCA GCG CAG CCC AGG CTT TGC CAA CCG CTC GAC GG gtaggtaaccggggcagagggaccggcggctc  1874
 P  S  G  V  P  A  A  R  S  S  P  A  Q  P  R  L  C  Q  R  L  D  G  Donor                          402
```

FIG. 1A

```
agggtcgggaagcatgcgatgtgtccgtgggtcaacttttgagtgtggagtttattaagagaaggtgggatggctttgcttggagagaaaagggaacgaggagtagcgaaccaaaatgg 1994
gacccagggtccttttctttccggatccagtcactagggtagaagcaaaggagggcgagcgggccgtcgttcctcacccaaggacccaaggtgtgccaccggaaagcgctgcggtgtccc 2114
gaggactctcgcctcgcctggtcggctttagggatttttttttttttttaaatagagacagggtttcgtctctgtcgcccacgcgggaatgcagtggtgcgatctcagctcactgcagtct 2234
tgaactcctggctcctgggctcaagcgatcctcccacctcagcctcctgagtatctgggactacaggcgagccccaccaatcccagctatttttaaaatttcttgtagagatggggtctt 2354
gctatgttgcccaggcttgtcttgaacttctggcctcaagtgatccttctgcctcagccttccaaagcattaggattacaggccggagccagggcgccgggtcggctctagttttggttt 2474
tccagctcagttctttgccccctccccgatttcttgccatcactagacctggctcggacttgaaggcagggctagtgcccccccacccgcccccaagccctcggcctcagttctggg 2594
ttttctcaaaggtttgacagctgtggaggtgagaatccacttccggtatgaagtacagttgtgagtgaggagcctgtgagtgcagatgtgtgccctcccgctccctgggctgggttggag 2714
tagggatggggtggggcgtgtgtggctgggtggtgccctggcgtttttgtgtaactaaatatgcgttccagggtctctgatctctgtcattcccctcagtgcacctgttgctcctttcac 2834
cccagggtctattatctccacttttttcccag G GCT TCT TGG GGA GTT TCT tag gcctgaaggacaagaagcaacaactctgttgatcagaacctgtggaaaacctctgg 2945
                        Acceptor    A   S   W   G   V   S   *                                                              408
cctctgttcagaatgagtcccatgggattccccggctgtgacactctaccctccagaacctgacgactgggccatgtgacccaaggagggatccttaccaagtgggttttcaccatcctc 3065
ttgctctctgtctgagagatgttttctaaaccccagccttgaacttcactcctccctcagtggtagtgtccaggtgccgtggagcagcaggctggctttggtaggggcacccatcacccg 3185
gcttgcctgtgcagtcagtgagtgcttagggcaaagagagctcccctggttccattccttctgccacccaaaccctgatgagaccttagtgttctccaggctctgtggcccaggctgaga 3305
gcagcagggtagaaaagaccaagatttggggttttatctctggttcccttattactgctctcaagcagtggcctctctcactttagccatggaatggctccgatctacctcacagcagtg 3425
tcagaaggacttcgccagggttttgggagctccagggttcataagaaggtgaaccattagaacagatcccttcttttccttttgcaatcagatcaataatcatcactgaatgcagttcat 3545
cctcggcccccttccctccgtttgttttcttttcataatccacttactcccttcccttctactctgctggcttttgacagaggcgtaaattaggcctaatcctcactcttttcttccta 3665
atgttcatcaaagaaaaa                                                                                                      3683
```

FIG. 1B

```
gatctgtaatcccagcactggggaggttgaggcagaaggatctggaggtccagaccaatctgggcaacatatagaaagactatctcaaacaataagataccttagggagagcatccaagc  120
agaagaggggctatcttggatggtttgggttgttcggttttgttttggtttgtttctggatggttgccttccttgttgggtaaaggatagggtgcgggggtttctcttctttgcagggtt  240
gcctcaggttctgccaggaaggagctgctgagctccaggaaaccggtgctgagggagtgtcaagacaggacgcccctctccaccctccaattcccaccagaggcctctcttgtgactatt  360
ggacgctgttcctttaaaagcagccactcctcccggcaactagggtgtacatgggggtgagatggagggaagctgacagacttaccccagcaattagggaagatggcccaggctggaag  480
agtcgctcccaagccctactgtccccttccctaagccagcgggtctggggaggaggggggaaccttcccaccccaggcgccacacgag ATG GCT CCG TGG CCT CAC AGA AAC   591
                                                                                              M   A   P   W   P   H   R   N     8
GGC TCT CTG GCT TTG TGG TCG GAC GCC CCT ACC CTG GAC CCC AGT GCA GCC AAC ACC AGT GGG TTG CCA GGA GTA CCA TGG GCA GCG GCA   681
 G   S   L   A   L   W   S   D   A   P   T   L   D   P   S   A   A   N   T   S   G   L   P   G   V   P   W   A   A   A    38
TTG GCT GGG GCA TTG CTG GCG CTG GCC ACG GTG GGA GGC AAC CTG CTG GTA ATC ATA GCC ATC GCC CGC ACG CCG AGA CTA CAG ACC ATA   771
 L   A   G   A   L   L   A   L   A   T   V   G   G   N   L   L   V   I   I   A   I   A   R   T   P   R   L   Q   T   I    68
ACC AAC GTG TTC GTG ACT TCA CTG GCC GCA GCT GAC TTG GTA GTG GGA CTC CTC GTA ATG CCA CCA GGG GCC ACA TTG GCG CTG ACT GGC   861
 T   N   V   F   V   T   S   L   A   A   A   D   L   V   V   G   L   L   V   M   P   P   G   A   T   L   A   L   T   G    98
CAT TGG CCC TTG GGC GAA ACT GGT TGC GAA CTG TGG ACG TCA GTG GAC GTG CTC TGT GTA ACT GCT AGC ATC GAG ACC TTG TGC GCC CTG   951
 H   W   P   L   G   E   T   G   C   E   L   W   T   S   V   D   V   L   C   V   T   A   S   I   E   T   L   C   A   L   128
GCT GTG GAC CGC TAC CTA GCT GTC ACC AAC CCT TTG CGT TAC GGC ACG CTG GTT ACC AAG CGC CGC GCC CGC GCG GCA GTT GTC CTG GTG  1041
 A   V   D   R   Y   L   A   V   T   N   P   L   R   Y   G   T   L   V   T   K   R   R   A   R   A   A   V   V   L   V   158
TGG ATC GTG TCC GCT GCC GTG TCC TTT GCG CCC ATC ATG AGC CAG TGG TGG CGT GTA GGG GCA GAT GCC GAG GCA CAG GAA TGC CAC TCC  1131
 W   I   V   S   A   A   V   S   F   A   P   I   M   S   Q   W   W   R   V   G   A   D   A   E   A   Q   E   C   H   S   188
AAT CCG CGC TGC TGT TCC TTT GCC TCC AAC ATG CCC TAT GCG CTG CTC TCC TCC TCC GTC TCC TTC TAC CTT CCC CTC CTT GTG ATG CTC  1221
 N   P   R   C   C   S   F   A   S   N   M   P   Y   A   L   L   S   S   S   V   S   F   Y   L   P   L   L   V   M   L   218
TTC GTC TAT GCT CGA GTG TTC GTT GTG GCT AAG CGC CAA CGG CAT TTG CTG CGC CGG GAA CTG GGC CGC TTC TCG CCC GAG GAG TCT CCG  1311
 F   V   Y   A   R   V   F   V   V   A   K   R   Q   R   H   L   L   R   R   E   L   G   R   F   S   P   E   E   S   P   248
CCG TCT CCG TCG CGC TCT CCG TCC CCT GCC ACA GGC GGG ACA CCC GCG GCA CCG GAT GGA GTG CCC CCC TGC GGC CGG CGG CCT GCG CGC  1401
 P   S   P   S   R   S   P   S   P   A   T   G   G   T   P   A   A   P   D   G   V   P   P   C   G   R   R   P   A   R   278
CTC CTG CCA CTC CGG GAA CAC CGC GCC CTG CGC ACC TTA GGT CTC ATT ATG GGC ATC TTC TCT CTG TGC TGG CTG CCC TTC TTC CTG GCC  1491
 L   L   P   L   R   E   H   R   A   L   R   T   L   G   L   I   M   G   I   F   S   L   C   W   L   P   F   F   L   A   308
AAC GTG CTG CGC GCA CTC GCG GGG CCC TCT CTA GTT CCC AGC GGA GTT TTC ATC GCC CTG AAC TGG CTG GGC TAT GCC AAC TCC GCC TTC  1581
 N   V   L   R   A   L   A   G   P   S   L   V   P   S   G   V   F   I   A   L   N   W   L   G   Y   A   N   S   A   F   338
AAC CCG GTC ATC TAC TGC CGC AGC CCG GAC TTT CGC GAC GCC TTC CGT CGT CTT CTG TGT AGC TAC GGT GGC CGT GGA CCG GAG GAG CCA  1671
 N   P   V   I   Y   C   R   S   P   D   F   R   D   A   F   R   R   L   L   C   S   Y   G   G   R   G   P   E   E   P   368
CGC GCA GTC ACC TTC CCA GCC AGC CCT GTT GAA GCC AGG CAG AGT CCA CCG CTC AAC AG|gtaggggacacgagcgggggaccggagtctctgggtgggga 1771
 R   A   V   T   F   P   A   S   P   V   E   A   R   Q   S   P   P   L   N   R|  Donor 1                                  387
```

FIG. 2A

```
cgtctctgtctctatttttgagtttggagattgggggagggaagatgtagatgggggtgcggtgtgtgtgtgggtgggggggtggcctttgtcttgagaggacagaaaagaggtaggaac 1891
taaaacgggccctttctcttcttggatccaatccctgggtctgaagcaaaagggaggaaggggataattgcgcaccttaggaccaggtgacccccacaggcagttgctgctcttccggca 2011
ggtttctgacctctctggtcgcctctagtttggggtttgtttgtttttgtttgtttgtttgtttgttttgttttttagttcccttcttcgggaacccaggcatctctatacctgtctgg 2131
gatatccatagacagcaatggacttccctagtcctcggcctcagtcccgctctctctcaaag G TTT GAT GGC TAT GAA GGT GCG CGT CCG TTT CCC ACG tgaaggg 2237
              Donor 2                                  Acceptor 1      F   D   G   Y   E   G   A   R   P   F   P   T   *       400
ccgtgaagatccagcaaggaagctgtgagttggcttggagttgctttcctccctcagggactggattagaactatagggtgggacttgggggggagggagggtgcaggatggaccctatg 2357
ggatttgggggtggagtagagggatgcgggaatggtccctatatctttgaaaagtgaatatgcttttcagggttcctgaatcacttccctcttccttccagtgcttgatccccatcttct 2477
tgactggttgccccaagaaatattgtttccgtttttgcaggacttctggggatttttttttttcctccagaaagacaagcaacggctatggatgcaacatttttataatgcctttgatttc 2597
       Acceptor 2"                          Acceptor 2
tactcagagtgagtcccctggaacctcaactctccaacgctccagaaccgatgactagaccacgaggtgtaagggaaatcttaccaaatgggtttcaccgtcctctctctctttccgaga 2717
gaagttgtctaagacccaccttgaacttcactactacctcagcagctgggacggcaggccacctgtgcttgacggccctgggaggagccctatggccttggaggcctgccagtccctgcc 2837
tatgtttgtgctgtatgcttagggaaaagagagcacccctccctccctttcttcctactgctttcctaaccctgatgatcgacatgttcctccacaaatcactctgtctccaggctctgt 2957
gtctctggttagtttgagagcaggaatccaggaaaaaaaaaaagtttgaggtttcatccctgtctcctcactatggctctctaagcaccatcttggaccatctctcacaataggcacaaa 3077
acagctctaatctacctcacagttaggacttcaaggtttgggggggaaattccagggttcataggaagaagtcaaactattggaatgggtccttttttccacttaaaatcaaattaataaa 3197
tattattgaatgtggtttgtcccctgctcgccttttctctgggtttgttttctttttcgtggcctgcttgctggcttccttgctccgagctgcgttttgacaggggcagtaaattaggagt 3317
aatccttgcctctttcttcctaatcctcatcagacacaaccagaaagtctgtctgtgtaagtgaggcagtcgagtctttgcctcgccttcctccccaccttttctgaaacttttgagatc 3437
```

FIG. 2B

AMINO-ACID SEQUENCE OF THE HUMAN B3-ADRENERGIC RECEPTOR GENE

```
        10         20         30         40         50         60         70         80
MAPWPHENSS LAPWPDLPTL APNTANTSGL PGVPWEAALA GALLALAVLA TVGGNLLVIV AIAWTPRLQT MTNVFVTSLA
        90        100        110        120        130        140        150        160
AADLVMGLLV VPPAATLALT GHWPLGATGC ELWTSVDVLC VTASIETLCA LAVDRYLAVT NPLRYGALVT KRCARTAVVL
       170        180        190        200        210        220        230        240
VWVVSAAVSF APIMSQWWRV GADAEAQRCH SNPRCCAFAS NMPYVLLSSS VSFYLPLLVM LFVYARVFVV ATRQLRLLRG
       250        260        270        280        290        300        310        320
ELGRFPPEES PPAPSRSLAP APVGTCAPPE GVPACGRRPA RLLPLREHRA LCTLGLIMGT FTLCWLPFFL ANVLRALGGP
       330        340        350        360        370        380        390        400
SLVPGPAFLA LNWLGYANSA FNPLIYCRSP DFRSAFRRLL CRCGRRLPPE PCAAARPALF PSGVPAARSS PAQPRLCQRL

DGASWGVS
```

FIG. 3

AMINO-ACID SEQUENCE OF THE MOUSE B3-ADRENERGIC RECEPTOR GENE

```
        10         20         30         40         50         60         70         80
MAPWPHRNGS LALWSDAPTL DPSAANTSGL PGVPWAAALA GALLALATVG GNLLVIIAIA RTPRLQTITN VFVTSLAAAD
        90        100        110        120        130        140        150        160
LVVGLLVMPP GATLALTGHW PLGETGCELW TSVDVLCVTA SIETLCALAV DRYLAVTNPL RYGTLVTKRR ARAAVVLVWI
       170        180        190        200        210        220        230        240
VSAAVSFAPI MSQWWRVGAD AEAQECHSNP RCCSFASNMP YALLSSSVSF YLPLLVMLFV YARVFVVAKR QRHLLRRELG
       250        260        270        280        290        300        310        320
RFSPEESPPS PSRSPSPATG GTPAAPDGVP PCGRRPARLL PLREHRALRT LGLIMGIFSL CWLPFFLANV LRALAGPSLV
       330        340        350        360        370        380        390        400
PSGVFIALNW LGYANSAFNP VIYCRSPDFR DAFRRLLCSY GGRGPEEPRA VTFPASPVEA RQSPPLNRFD GYEGARPFPT
```

FIG. 4

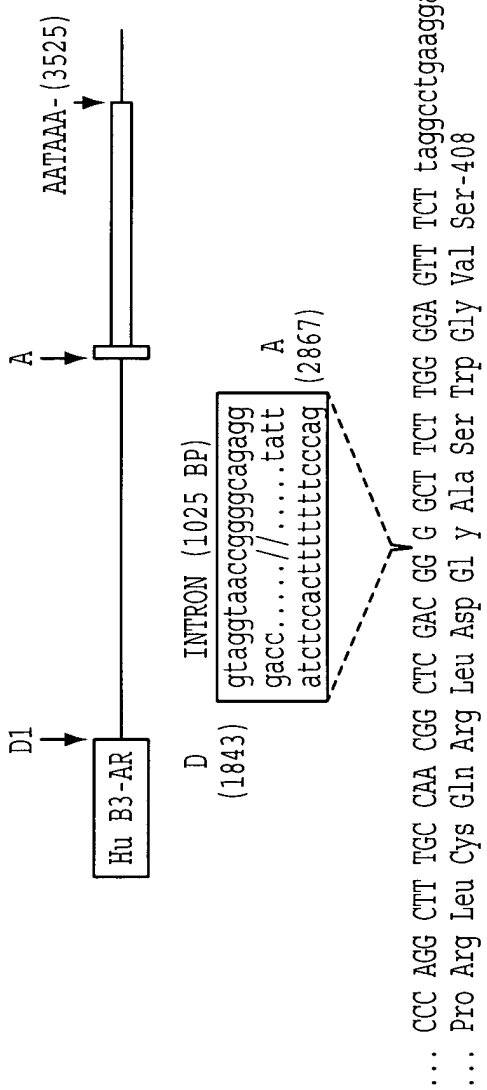

FIG. 5A

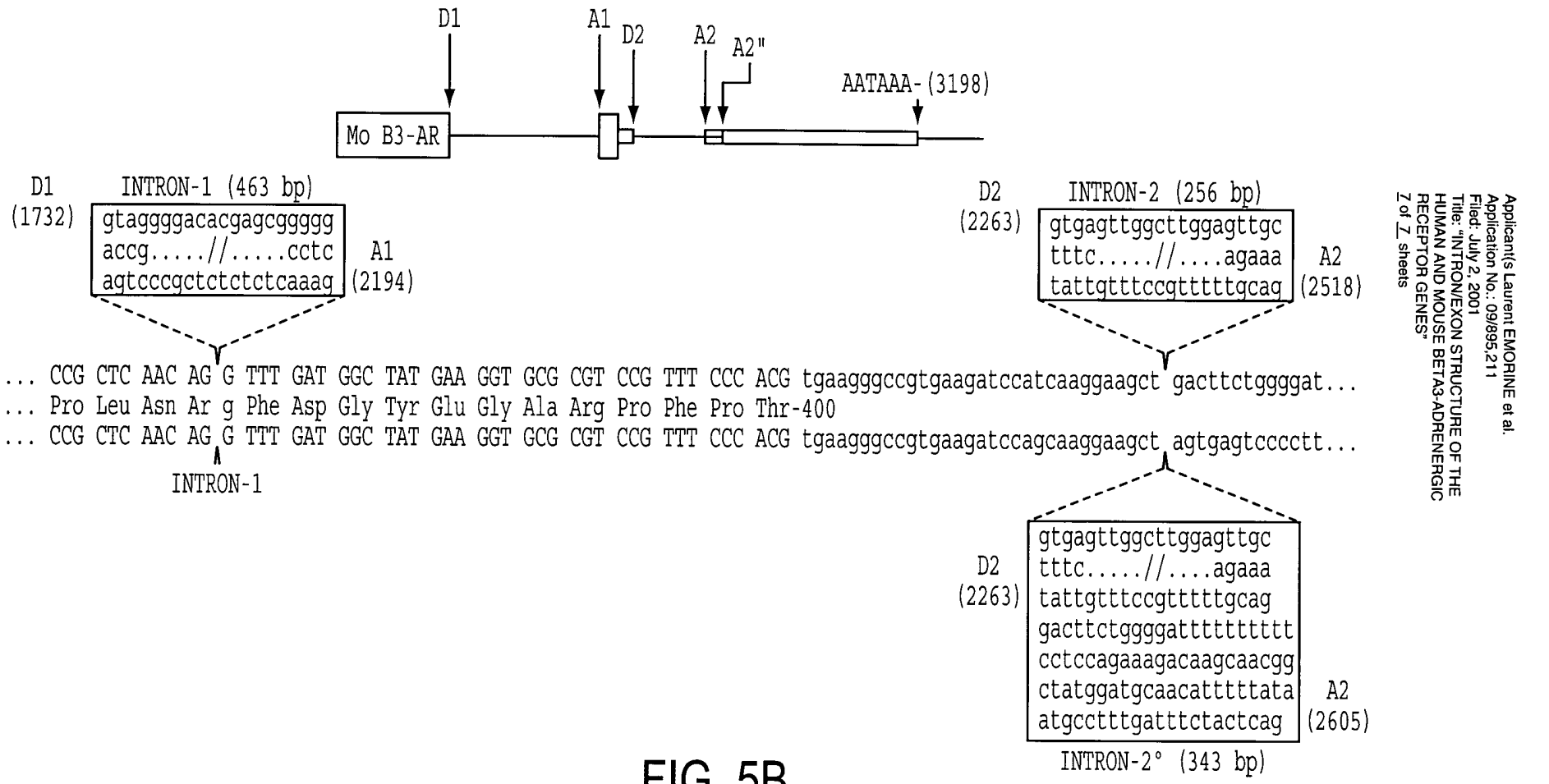

FIG. 5B

Applicant(s) Laurent EMORINE et al.
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